

What is claimed is:

1. A method of making a permanently wettable superabsorbent material, comprising:

treating the superabsorbent material with a surfactant solution;

wherein the surfactant has at least one first functional group reactive with a second functional group of the superabsorbent material and at least one non-reactive and hydrophilic functional group; and

wherein the surfactant is applied to the superabsorbent material when the second functional groups on the surface of the superabsorbent material are activated.

2. The method of claim 1, wherein the surfactant solution includes a solvent that is a solvent to the surfactant but a non-solvent to the superabsorbent material; and

wherein the surfactant solution includes an amount of water sufficient to solvate the surface of the superabsorbent material but less than sufficient to cause significant swelling of the superabsorbent material.

3. The method of claim 2 further comprising drying the treated superabsorbent material to remove the solvent and the water.

4. The method of claim 1 further comprising washing the treated superabsorbent material with a solvent to remove fugitive surfactant.

5. The method of claim 2, wherein the treatment is by immersion or spray.

6. The method of claim 1, wherein the superabsorbent material is a superabsorbent fiber.

7. The method of claim 1, wherein the superabsorbent material is in a form selected from the group consisting of a particulate, a film, a nonwoven, a bead, a foam, and a coform.

8. A permanently wettable superabsorbent fiber made by the method of claim 6.

9. The fiber of claim 8 having a reduction in surface tension of saline less than about 30%.

10. The method of claim 1, wherein the treated superabsorbent material has a floating time less than 30 seconds and causes a reduction in surface tension of saline less than about 30%.

11. The method of claim 1, wherein the treated superabsorbent material causes a reduction in surface tension of saline less than about 25%.

12. The method of claim 1, wherein the treated superabsorbent material causes a reduction in surface tension of saline less than about 20%.

13. The method of claim 1, wherein the superabsorbent material is selected from the group consisting of alkali metal salts of polyacrylic acids, polyacrylamides, polyvinyl alcohol, ethylene maleic anhydride copolymers, polyvinyl ethers, hydroxypropylcellulose, polyvinylmorpholinone, and polymers and copolymers of vinyl sulfonic acid, polyacrylates, polyacrylamides, polyvinyl amines, polyallylamines, and polyvinylpyrrolidone.

14. The method of claim 1, wherein the superabsorbent material is selected from the group consisting of agar, algin, carrageenan, starch, pectin, guar gum, chitosan, and the like, modified natural materials such as carboxyalkyl cellulose, methyl cellulose, hydroxyalkyl cellulose, chitosan salt, dextran, and the like.

15. The method of claim 1, wherein the surfactant first reactive functional group is selected from the group consisting of quaternary ammonium groups, amino groups, carboxyl groups, sulfonate groups, phosphate groups, and their corresponding acid groups.

16. The method of claim 1, wherein the surfactant non-reactive, hydrophilic functional group is selected from the group consisting of hydroxyl groups, ether groups, carboxylic acid groups, amino groups, and imino groups.

17. The method of claim 2, wherein the solvent is selected from the group consisting of isopropanol, methanol, ethanol, butyl alcohol, butanediol, butanetriol, butanone, acetone, ethylene glycol, propylene glycol, glycerol, and mixtures thereof.

18. The method of claim 2, wherein the water is present from about 1 to 10% by total weight of the solvent.

19. The method of claim 1, wherein the treated superabsorbent material has a floating time less than 30 seconds.

20. A disposable absorbent product comprising a liquid-permeable topsheet, a backsheet attached to the topsheet, and an absorbent structure made with the fiber of claim 8 positioned between the topsheet and the backsheet.

Jones & Askew Docket # 11710-J160
K-C #15,105

21. The method of claim 1, wherein the surfactant is applied to the superabsorbent material when the superabsorbent material is in a solvated state.